
A Novel Therapy for Articular Cartilage Autologous Cellular Repair by Paste Grafting

Grant Award Details

A Novel Therapy for Articular Cartilage Autologous Cellular Repair by Paste Grafting

Grant Type: Quest - Discovery Stage Research Projects

Grant Number: DISC2-13131

Investigator:

Name:	Kevin Stone
Institution:	The Stone Research Foundation for Sports Medicine and Arthritis
Type:	PI

Award Value: \$1,316,215

Status: Pre-Active

Grant Application Details

Application Title: A Novel Therapy for Articular Cartilage Autologous Cellular Repair by Paste Grafting

Public Abstract: **Research Objective**

Articular paste graft containing MSCs and an adhesive hydrogel that support cartilage growth will be combined for an effective and functional stem cell based cartilage repair procedure.

Impact

The proposed biologic cartilage repair therapy results in accessibility of an effective, low cost, one-step and functional biologic solution to those with cartilage injuries and arthritis.

Major Proposed Activities

- Optimize preparation of articular tissue-derived paste graft containing autologous MSCs/stromal cells. The addition of allogeneic MSCs will be assessed in optimized formation of cartilage constructs.
- Optimize mechanical and cell-viability properties of hydrogel adhesion and fixation of the paste graft within articular defects.
- Determine preliminary safety and effectiveness data of the method in a rabbit model of cartilage repair and assess feasibility in a goat model of cartilage repair.

Statement of Benefit to California: The successful outcome of this project will be to:

1. Provide an effective surgical solution to osteoarthritis and traumatic cartilage injury to the broad spectrum of the California patient population
2. Develop a surgical kit used in the surgery that can be distributed and sold nationally and internationally, bringing revenue and jobs to California.
3. Reduce overall healthcare costs due to a simple, single-step surgical technique that provides long term reduction in pain and increased function.

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